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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,357	10/24/2000	Kumar Balachandran	8194-393	2727

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EXAMINER

KUMAR, PANKAJ

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/695,357

Applicant(s)

BALACHANDRAN ET AL.

Examiner

Pankaj Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27,30,41,44 and 49 is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,9,11,12,14-19,21,22,24,25,28,29,31-33,35,36,38,39,42,43,45,46,48 and 50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Continuation of Disposition of Claims: Claims pending in the application are 1-3,5-9,11,12,14-19,21,22,24,25,27-33,35,36,38,39,41-46 and 48-50.**

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 9/2/2005 have been fully considered but they are not persuasive.

2. Applicant argues that Dent does not teach one or more idle time slots separate one or more control time slots from one or more traffic time slots that are associated with different frequencies since the time slots surrounding the control channel time slots are left blank to illustrate the use of control channels for associated cells. This is not persuasive. Dent teaches idle time slot separating control time slots as taught in the prior action. Dent teaches that "traffic channel which is idle MAY be used to communicate control channels" (Dent col. 10 lines 64-65) (emphasis added). Dent merely recommends this approach and says it may be used for this purpose; however, Dent is not conclusionary that the idle time slot has to be used to communicate control channels. In fact, that's why Dent used the word "idle" or "unassigned" and "may" because it can remain idle without it being used to communicate control channels. Keeping a time slot idle might be useful if the system needs time to process other things. For example, in a computer, some processes might remain stalled (or idle) for sometime while the CPU does other processing. In terms of claim language, since Dent teaches idle time slot and applicant has claimed idle time slot, Dent teaches applicant's claim. The fact that Dent recommends a use for the idle time slot does not teach away from the fact that Dent teaches an idle time slot.

3. Applicant argues that Eswara does not teach indicating that one or more frequencies used in one of the beams A, B, C, or D may be within the bandwidth defined by frequencies used in

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another one of the beams A, B, C, or D. This is not persuasive since applicant has not claimed such a limitation. What applicant has claimed is frequencies associated with an auxiliary communication system coexist within a same bandwidth defined by the plurality of traffic frequencies. Eswara teaches in fig. 4 and detailed description paragraph 4 that, taking the case of beams A and B, there is one antenna for beam A and another for beam B and hence one of the antennas is an auxiliary communication system. Beams A and B are traffic beams and hence have traffic frequencies. These beams overlap as shown in fig. 4 and hence they coexist. They also coexist since the plurality of traffic frequencies such as A+B define a bandwidth and A coexists within the A+B bandwidth and B coexists within the A+B bandwidth.

4. Applicant argues that Barany does not teach the last section of claim 50 since Barany does not teach randomly selecting a frequency (i.e. channel) since the PRACH taught in Barany teaches randomly selecting a channel with no predictability. This is not persuasive since, assuming arguendo, that there is no predictability, Barany still selects a frequency randomly (Barany col. 14). Also, the word random implies a lack of predictability. Also, applicant has not claimed predictability. Hence, Barany teaches randomly (Barany col. 14 lines 55-56: random access channel) selecting a frequency from each of the plurality of equivalence classes of frequencies (Barany col. 14 last paragraph; paragraph 64: "PAGCH is used to allocate a channel to a mobile unit 20 for signaling to obtain a dedicated channel following a request by the mobile unit 20 on PRACH."); and using the randomly selected frequencies to communicate traffic information between the mobile terminal and the base station subsystem (Barany col. 14 lines 57-58, 60-62: random access channel used to request access to system and allocating a channel to a mobile unit following a request on the random access channel).

***Response to Amendment***

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 3, 5, 6, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eswara in view of Dent USPN 6,011,786.

7. Claims 9, 11, 12, 14, 15, 16, 17, 18, 19, 21, 22, 24, 25, 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eswara in view of Almgren USPN 6,298,081 and Dent.

8. Claims 31, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eswara in view of Almgren and Dent as applied to claim 19 above, and further in view of Barany.

9. Claims 33, 35, 36, 38, 39, 42, 43, 45, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eswara in view of Almgren, Dent and Barany.

10. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eswara in view of Almgren.

11. See prior action for details.

12. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barany et al. USPN 6,256,486 in view of Mays et al. USPN 5,828,693.

13. As per claim 50, a method of communication between a mobile terminal and a base station subsystem, comprising: assigning a control frequency to a cell in which the mobile

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terminal is located (Barany col. 14 last paragraph: "... control channels ... provide general information on a per base station basis ... including information employed for mobile units 20 to register in the system 10"); using the control frequency to exchange control information between the mobile terminal and the base station subsystem (Barany col. 14 last paragraph: control information for control frequencies; PCCCH includes PRACH for uplink – mobile to base), the exchange of control information being constrained to the control frequency (Barany paragraph 4: "In one embodiment, the base station 18 and mobile units 20 in each cell 14 are capable of communicating with two sets of carriers--a first set of carriers 26 for communicating circuit-switched traffic (e.g., speech data, short messaging services, and other circuit-switched data) and associated control signals; and a second set of carriers 28 for communicating packet-switched data traffic and associated control signals."); assigning a plurality of traffic frequencies to the cell in which the mobile terminal is located (Barany col. 15 lines 7-9: "... data traffic channels ... and associated traffic control channels ..." are assigned to the mobile - Barany col. 14 last paragraph), each of the plurality of traffic frequencies being associated with an equivalence class of frequencies (Barany figs. 2, 3, 10, 11: hopping between various frequencies while moving between coverage areas; these frequencies are in a hopping class such that any can be hopped to equivalently if conditions such as interference, signal strength etc. are equivalent); randomly (Barany col. 14 lines 55-56: random access channel) selecting a frequency from each of the plurality of equivalence classes of frequencies (Barany col. 14 last paragraph; paragraph 64: "PAGCH is used to allocate a channel to a mobile unit 20 for signaling to obtain a dedicated channel following a request by the mobile unit 20 on PRACH."; one cell is changing between frequencies assigned to that cell; if this is not sufficient than it would be obvious as explained

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below); and using the randomly selected frequencies to communicate traffic information between the mobile terminal and the base station subsystem (Barany col. 14 lines 57-58, 60-62: random access channel used to request access to system and allocating a channel to a mobile unit following a request on the random access channel).

14. Barany teaches a plurality of equivalence classes of frequencies as explained above. If that is not sufficient, than Barany does not teach a plurality of equivalence classes of frequencies. Mays teaches a plurality of equivalence classes of frequencies (Mays col. 12 lines 60-64). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the plurality of equivalence classes of frequencies as recited by the instant claims, because the combined teaching of Barany with Mays suggest plurality of equivalence classes of frequencies as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Barany with Mays because Barany suggests cells with multiple frequencies (something broad) in general and Mays suggests the beneficial use of the multiple frequencies being within a range or equivalence classes of frequencies such as to not interfere with communications occurring in some other frequency range in the analogous art of frequencies.

***Allowable Subject Matter***

15. Claims 27, 30, 41, 44, 49 are allowed. Reasoning is provided in prior action(s).



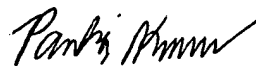
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***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (571) 272-3011. The examiner can normally be reached on Mon, Tues, Thurs and Fri after 8AM to after 6:30PM.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pankaj Kumar  
Patent Examiner  
Art Unit 2631

PK